

**Ohio**  
**Defense Site Acceleration Completion - 2006 Accelerated Completions**  
**Nuclear Facility D&D-West Jefferson**

**Narrative Information:**

**Life-Cycle Project Description:**

Completion of the West Jefferson site accelerated clean-up consists of four primary objectives: 1) decontamination and demolition of three large buildings: JN-1, High Energy Hot Cell Facility (20,200 square feet); JN-2, Critical Assembly Building (13,000 square feet), and JN-3, Reactor Building (10,000 square feet); 2) cleanup of related external areas (contaminated filter beds and buried utilities); 3) waste management activities (packaging, transportation, and disposal of transuranic waste, low-level waste and contaminated soils and debris); and 4) surveillance and maintenance (phased out as site hazards are reduced). The end-state objective is to safely remediate Battelle facilities to levels of residual contamination allowing future use of the site without radiological restrictions by the end of FY 2006 or sooner, thereby releasing DOE from all future liability. All future use decisions will be made by the site owner, Battelle. Progress to date toward this end-state includes: completion of remote-handled transuranic waste packaging, completion of three (out of 21) transuranic waste shipments to Hanford for interim storage, decontamination of JN-3 in preparation for demolition without costly radiological controls, decontamination/stabilization of 4 large hot cells in JN-1, and removal of 10 smaller cells. Work in JN-1 is approximately 45 percent complete; in JN-2 0%, and in JN-3 57%. Overall, the West Jefferson site remediation is approximately 60 percent complete at the end of FY2003. (Former PBSs were OH-CL-02-D and OH-CL-03-D).

**Prior Year Accomplishments :**

Completed decontamination/stabilization of the High Energy Cell (the largest hot cell in the eastern USA). Decontamination has significantly reduced radiation dose levels, simplifying the approach to building demolition (FY2003). Shipped 36 cubic meters of transuranic waste off site to Hanford for interim storage prior to permanent disposal at WIPP (FY2003). This is a key activity for accelerating D&D of building JN-1. Disposed of 1,400 cubic meters of remediation waste at Envirocare and 23 cubic meters of Class 3 low-level waste at Hanford - with commensurate reduction in site hazard (FY2003).

**Current Year Accomplishments :**

In FY 2004, the following activities are planned to support the accelerated cleanup of West Jefferson under the Ohio Field Office. -Accelerate demolition of buildings JN-2 and JN-3 as radiologically clean structures from FY 2005 to FY 2004. The overall strategy for decontamination and demolition of building JN-2 involves relocation of building occupants to alternate facilities and removal of materials and utilities from both internal and external surfaces followed by characterization, surface decontamination to less than regulatory limits, buried drain line removal, and, finally, demolition of the building and its foundation according to standard industrial practice. -Complete decontamination of the Research Reactor Building, JN-3 (10,000 square feet). -Dispose of 2,040 m3 of remediation waste including building debris and soil at Envirocare (1/3 of total).

**Planned Activities at FY 2005 Request:**

Complete decontamination and stabilization of building JN-1A/B. The JN-1A area includes in the original section of the building, the basement cell area, the mechanical test cell, the high and low cells with underlying subcells, the controlled access area (CAA) behind the cells, including the Charpy cell, hot equipment storage room, evaporator room, a service mezzanine above the cells with air-handling equipment, the loading dock area, the waste storage shed, and the hot cell support areas including the change room, lavatory, and air lock into the CAA. The high bay addition (JN-1B) includes the high-energy cell, the fuel storage pool, a cask washdown room, and a front operating area with a mezzanine level service area containing large ventilation control equipment. Contamination of JN-1 is extensive and deeply ingrained in the various hot cells and associated service areas. Consequently, it is considered to be more practical to reduce contamination to manageable levels, fix it in place, and surgically deconstruct the building for disposal as contaminated waste rather than attempt free release and conventional demolition. Complete decontamination/stabilization of the fuel storage pool and transfer canal (critical path activity), and the high-bay area surfaces (critical path activity). Complete remediation of the abandoned north filter beds.

**Explanation of Changes**

The decrease between FY 2004 and FY 2005 is due to the award of fixed-price construction contracts in FY 2004 for the demolition of JN-1, JN-2, and JN-3.

Category: (Unit Code)	PY 2003 Quarters				PY 2003 Total	CY 2004
	1	2	3	4		
Nuclear Facility Completions: (NF)						
Radioactive Facility Completions: (NF)						2
Remediation Complete: (NR)						
<i>Operations Office Totals</i>						
Nuclear Facility Completions: (NF)					0	
Radioactive Facility Completions: (NF)		1	1	4	6	6
Remediation Complete: (NR)		1	1	2	4	2

<i>Budget Authority (\$000)</i>			
	FY 2003 Amended Request	FY 2004 Congressional Request	FY 2005
<b>Total Office Balance:</b>	554,728	564,394	570,617
<b>Base Allocation:</b>	20,963	23,058	20000
<b>Total PBS Auditable Allocation:</b>	20,963	23,058	20,000
<b>OH: Columbus</b>	20,963	23,058	20000
<b>Capital Equipment:</b>	0	0	0
<b>General Plant Projects:</b>	0	0	0
<b>Operating:</b>	20,963	23,058	20000

<b>Budget Milestones</b>	
Field Code	Name
TBD	Reduce site risk by completing all of the remaining 21 transuranic waste shipments to Hanford.
TBD	Reduce site risk by decontaminating/stabilizing the High Energy Cell, JN-1.
TBD	Accelerate site closure by demolishing JN-3 building structure.
TBD	Accelerate site closure by demolishing JN-2 building structure.
TBD	Complete Decontamination/Stabilization of the Fuel Storage Pool and Transfer Canal in JN-1 (Critical Path Activity)
TBD	Complete Decontamination/Stabilization of the High Bay Area surfaces in JN-1 (Critical Path Activity)

TBD Conduct Filter Beds Independent Verification Certification

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<b>Ohio</b>	
<b>OH-CL-0040 - Nuclear Facility D&amp;D-West Jefferson</b>	
<b>SSL Name:</b> Columbus Environmental Management Project	
<b>Date Added:</b> 12/16/2002	
<b>Project Start:</b>	10/1/2003
<b>Mission Complete:</b>	12/31/2006
<b>End Milestone:</b>	12/31/2006
<b>Post-Closure Activity:</b> No	
<b>Project Description</b>	
<p><b>Lifecycle Project Description</b></p> <p>Completion of the West Jefferson site accelerated clean-up consists of four primary objectives: 1) decontamination and demolition of three large buildings: JN-1, High Energy Hot Cell Facility (20,200 square feet); JN-2, Critical Assembly Building (13,000 square feet), and JN-3, Reactor Building (10,000 square feet); 2) cleanup of related external areas (contaminated filter beds and buried utilities); 3) waste management activities (packaging, transportation, and disposal of transuranic waste, low-level waste and contaminated soils and debris); and 4) surveillance and maintenance (phased out as site hazards are reduced). The end-state objective is to safely remediate Battelle facilities to levels of residual contamination allowing future use of the site without radiological restrictions by the end of FY 2006 or sooner, thereby releasing DOE from all future liability. All future use decisions will be made by the site owner, Battelle. Progress to date toward this end-state includes: completion of remote-handled transuranic waste packaging, completion of three (out of 21) transuranic waste shipments to Hanford for interim storage, decontamination of JN-3 in preparation for demolition without costly radiological controls, decontamination/stabilization of 4 large hot cells in JN-1, and removal of 10 smaller cells. Work in JN-1 is approximately 45 percent complete; in JN-2 0%, and in JN-3 57%. Overall, the West Jefferson site remediation is approximately 60 percent complete at the end of FY2003. (Former PBSs were OH-CL-02-D and OH-CL-03-D).</p>	
<p><b>Purpose, Scope and Technical Approach</b></p> <p>The scope of the Columbus Closure Project is to remove radioactive materials and contamination to levels that will allow future use of Battelle buildings and grounds without radiological restrictions, as defined in project procedures and Nuclear Regulatory Commission requirements. DOE and Battelle have mutually agreed that demolition of buildings JN-1, JN-2, and JN-3 is a cost effective way of meeting their responsibilities for these three buildings.</p>	

**End State**

As a general end state, areas where buildings have been demolished or contaminated materials have been excavated will be backfilled, compacted to a degree that will enable future construction, and covered with grass. Known contamination will be removed in accordance with project release criteria. Exceptions, such as decontaminating or excavating areas to below release criteria or partially excavating areas above release criteria (e.g., possibly leaving the section of sanitary sewer that runs under the dam in place and filling it with grout material to fix the contamination and render the pipe unusable) will be made on a case-by-case basis by mutual agreement between DOE and Battelle.

**Project Drivers**

<b>CERCLA</b>	No	<b>RCRA</b>	No	<b>DNFSB</b>	No	<b>DOE Orders</b>	No
<b>AEA</b>	No	<b>UMTRCA</b>	No	<b>State</b>	Yes	<b>Other</b>	Yes

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<i>EM and Total Cost (Current Year - \$000)</i>		<b>Total</b>	
<b>Total Project Cost:</b>		\$163,259	
<b>EM Project Cost:</b>		\$163,259	
<b>Milestones</b>	<b>EA</b>	<b>Budget Milestone</b>	<b>Grand Total</b>
<b>Total</b>	0	12	14
<b>Quantities</b>			
<b>Category</b>			<b>Total: Pre '97-2035</b>
Nuclear Facility Completions:NF			

Radioactive Facility Completions:NF	14
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Remediation Complete:NR

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Budget Milestones				
Field Code	Name	Completion Date	Forecast	Actual
TBD	Completed packaging of transuranic waste in the High Energy Cell, JN-1, achieving over 95 percent volume reduction in the site's primary radiological hazard.	9/30/2002		9/30/2002
TBD	Completed decontamination/stabilization of the High Energy Cell in building JN-1.	9/30/2002		9/30/2002
TBD	Finished removal of the Cask Sabotage Experimental Unit in Building JN-1.	9/30/2002		9/30/2002
TBD	Completed decontamination of JN-3 Reactor Building basement.	9/30/2002		9/30/2002
TBD	Reduce site risk by completing all of the remaining 21 transuranic waste shipments to Hanford.	5/31/2003		
TBD	Reduce site risk by decontaminating/stabilizing the High Energy Cell, JN-1.	7/31/2003		
TBD	Accelerate site closure by demolishing JN-3 building structure.	5/31/2004		
TBD	Accelerate site closure by demolishing JN-2 building structure.	7/31/2004		
TBD	Complete Decontamination/Stabilization of the Fuel Storage Pool and Transfer Canal in JN-1 (Critical Path Activity)	2/10/2005		
TBD	Complete Decontamination/Stabilization of the High Bay Area surfaces in JN-1 (Critical Path Activity)	4/27/2005		
TBD	Conduct Filter Beds Independent Verification Certification	8/1/2005		

TBD	Complete Demolition of Building JN-1A/B (Critical Path Activity)	8/15/2006		
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